46. (New)The vaccine of claim 38, wherein said peptide comprises CS6β3 having the amino acid sequence of TSYTFSAIYTGGE, Seq. ID No: 10.

47. (New) The vaccine of claim 38, wherein said peptide comprises CS6β2 having the amino acid sequence of QLYTVEMTIPAGV, Seq. ID No: 9---.

REMARKS

The specification has been amended to recite the status of the related applications and to correct spelling and idiomatic errors. Non-elected claims 1-14 have been cancelled without prejudice. Applicants reserve the right to refile claims 1-14 in a divisional application. Claims 15-17 have been amended so that claim 15 is in independent form and claims 16 and 17 are dependant therefrom. Claims 21-47 have been added. Support for new claims 21-47 is found in the specification at pages 13 and 14, Tables I and II and page 6, line 1-2, page 6, line 30 through page 7, line 14. No new matter has been added.

The Examiner has objected to the oath or declaration as defective for not providing a declaration from the inventor Scheherazade. Applicants have been attempting without success to locate inventor Scheherazade. Applicants' filed a Petition under Rule 37 CFR 1.47 requesting acceptance of the declarations of the inventors Nauss and Wolf citing the inability to locate inventors Reid and Scheherazade. Applicants attach the October 2, 1998 Petition with accompanying letter.

Since that date, the inventor Reid has been located and a duly executed declaration of Reid has been filed in this application. However, Applicants have not been able to locate Scheherazade to this date. Applicants do not have any forwarding address

in addition to the letter attached to the Petition dated May 7, 1998 or fax attached to the Petition dated November 19, 1998. Applicants have made several telephone calls in February, 2000 to Johns Hopkins University, Dept. of Immunology in Baltimore, MD and NIH in Bethesda, MD where it was rumored that she may be working. Both possible places of employment have no record of her working there. Applicants request a decision on the petition duly filed under Rule 37 CFR 1.47 and acceptance of the declarations of Nauss, Wolf and Reid.

Claims 15-20 have been rejected under 35 U.S.C. §112, first paragraph. Applicants respectfully traverse this rejection.

The Examiner questions whether the disclosed model will show that the minimized peptides will work as a vaccine. Applicants submit that the disclosed model shows efficacy of the peptides as a vaccine.

It is well accepted in the art that if a peptide binds to the DR1 binding assay, it is immunogenic in humans. Bio-assays of peptides in the DR1 model show immunogenic efficacy in humans. These peptides, when presented to a human body with a proper immunologically acceptable carrier, would be expected by one of ordinary skill in the art to produce a protective vaccine.

The model generated by the inventors and recited in the disclosure of the invention produces the same findings as the DR1 bio-assay and has been tested against the DR1 model for accuracy. It was found that if a peptide bound in the model of the invention, it also bound in the DR1 model. This correlation of model of the invention to the DR1 binding assay is shown in Table 1, page 13. Therefore, the disclosed model

surveys for selection peptides that will work in a vaccine. Further the claimed peptides would be accepted by one of ordinary skill in the art, based on the furnished data in the application, to be immunogenic in humans and acceptable for a vaccine.

Regarding modifying a minimized peptide to obtain a synthetic peptide, applicants offer the following explanation. A synthetic peptide, wherein the amino acid sequence of the minimized peptide of the invention has been modified to have a superior binding affinity, can easily be obtained by one of ordinary skill in the art of molecular modeling and computation chemistry using a computer to modify and test the synthetic peptide in the model for binding ability. Tables I and II show a minimized peptide HA and a synthetic peptide HA-YK and the amino acid sequences therefore. The minimized peptides and the synthetic peptides are similar except for the possibility of amino acid substitution. They are not the same. (See the specification at page 7, lines 15-29.) Therefore, the description is adequate under 35 U.S.C. §112, first paragraph.

Claims 15-20 have been rejected under 35 U.S.C. §112, second paragraph. Applicants respectfully traverse this rejection.

The Examiner objects to the term "minimized". "Minimized" is a term that is known in the art. It describes the lowest kinetic energy state of the molecules in the peptide. In other words, if a minimized peptide is a peptide that has been reduced to the lowest energy state (See specification, page 11, last paragraph). Therefore, the description and claims are believed to be in compliance with 35 U.S.C. §112, second paragraph.

Claims 15-20 have been rejected under 35 U.S.C. §102(b) as anticipated by, or in the alternative, under 35 U.S.C. §103(a) as obvious over Reid, et al. (Jrnl. Of Immunology, April 15, 1993). Applicants respectfully traverse this rejection.

The Journal of Immunology abstract (April 15, 1993) published by the inventors Nauss, Reid and Scheherazade of the application only predates the filing date of U.S. Serial No. 08/064,559 (May 21, 1993) by one month. As recited on page 1 of the application, the present application is a continuation of 08/789,734 which is a CIP of 08/590,973, which is a CIP of 08/247,884, which is a CIP of 08/064,559. Applicants claim the benefit of priority under 35 U.S.C.§ 120 of the above recited applications. Hence, the rejections under 35 U.S.C. 102(b) and 103(a) should be withdrawn.

Reconsideration and allowance are respectfully requested.

Respectfully submitted,

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